CLAIMS:

1. A driver (D) for a matrix display panel with a pixel (Pk) comprising a first and a second sub-pixel (SP11, SP12) both having an inertia, to supply a first and a second drive signal (Ra, Ga) to the first and the second sub-pixel (SP11, SP12), respectively, at a predetermined repetition rate in response to a first and second input signal (R, G) indicating a first and a second desired brightness transition (BT1, BT2) of the first and second sub-pixel (SP11, SP12), respectively, the driver (D) comprising:

- means (LV1; CC, Fr, Fg, Fb) for detecting whether the first drive signal (Ra) would have to surpass a maximum level (MA) or to fall below a minimum level (MI) in order to compensate for the inertia of the first sub-pixel (SP11) so as to enable the first sub-pixel (SP11) to substantially complete the first desired brightness transition (BT1) within a single predetermined period (Tf; TS1) being the reciprocal of the predetermined repetition rate, and
- means (AC, CO; CC) for adapting the first and/or the second drive signals (Ra, Ga) to compensate for the inertia and for increasing or decreasing a level of the second drive signal (Ga) if is detected that the first drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI), respectively.

2. A driver as claimed in claim 1, wherein

the pixel (Pk) further comprises a third sub-pixel (SP21), the driver (D) being arranged for further receiving a third input signal (B) indicating a third desired brightness transition of the third sub-pixel (SP21) to supply a third drive signal (Ba) to the third sub-pixel (SP21) at the predetermined repetition rate,

the means (AC, CO; CC) for increasing or decreasing the level of the second drive signal (Ga) comprises a clipping compensator (CC) for receiving a first obtainable minimum level (Rmi) of the first drive signal (Ra), a first obtainable maximum level (Rma) of the first drive signal (Ra), the second input signal (G), and the third input signal (B) to supply the second drive signal (Ga) and the third drive signal (Ba) wherein at least one of the levels of the second and third drive signal (Ga, Ba) is increased or decreased with respect to the level of the second and third input signal (G, B), respectively, if is detected that the first

drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI).

3. A driver as claimed in claim 1, wherein the predetermined period (Tf; TS1) is a frame period (Tf) or a line period (TS1).

4. A driver as claimed in claim 3, further comprising

a frame memory (FM; FB) for storing the first input signal (R) to supply a previous first input signal (Rp) of a previous frame,

the means (LV1; CC, Fr, Fg, Fb) for detecting whether the first drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI) comprising a first limit value determination circuit (Fr) for receiving the previous first input signal (Rp) to determine, starting from a level of the previous first input signal (Rp) a first obtainable minimum level (Rmi) being obtainable by supplying the minimum level (MI) to the first sub-pixel (SP11), and a first obtainable maximum level (Rma) being obtainable by supplying the maximum level (MA) to the first sub-pixel (SP11), and

the means (AC, CO; CC) for increasing or decreasing the level of the second drive signal (Ga) comprising a clipping compensator (CC) for receiving the first obtainable minimum level (Rmi), the first obtainable maximum level (Rma), and the second input signal (G) to supply the second drive signal (Ga) having a level being increased or decreased with respect to the level of the second input signal (G), respectively, if is detected that the first drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI).

5. A driver as claimed in claim 4, wherein the frame memory (FM; FB) is arranged for further storing the second input signal (G) to supply a previous second input signal (Gp) of the previous frame, and wherein the driver (D) further comprises an overdrive circuit (Og) for receiving the second drive signal (Ga) and the previous second input signal (Gp) to supply an overdriven second drive signal (Ga') to the second sub-pixel (SP12).

6. A driver as claimed in claim 3, further comprising

a frame memory (FB; FM) for storing the first drive signal (Ra) to supply a previous first drive signal (Rp) of a previous frame, and the second drive signal (Ga) to supply a previous second drive signal (Gp) of a previous frame,

the means (LV1; CC, Fr, Fg, Fb) for detecting whether the first drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI) comprising a first limit value determination circuit (Fr) for receiving the previous first drive signal (Rp) to determine, starting from a level of the previous first drive signal (Rp) a first obtainable minimum level (Rmi) being obtainable by supplying the minimum level (MI) to the first sub-pixel (SP11), and a first obtainable maximum level (Rma) being obtainable by supplying the maximum level (MA) to the first sub-pixel (SP11), and

the means (AC, CO; CC) for increasing or decreasing the level of the second drive signal (Ga) comprising a clipping compensator (CC) for receiving the first obtainable minimum level (Rmi), the first obtainable maximum level (Rma), and the second input signal (G) to supply the second drive signal (Ga) having a level being increased or decreased with respect to the level of the second input signal (G) if is detected that the first drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI), respectively.

7. A driver as claimed in claim 6, further comprising an overdrive circuit (Og) for receiving the second drive signal (Ga) and the previous second drive signal (Gp) to supply an overdriven second drive signal (Ga') to the second sub-pixel (SP12).

8. A driver as claimed in claim 1, wherein the means (AC, CO; CC) for increasing or decreasing the level of the second drive signal (Ga) is arranged for changing the level of the second drive signal (Ga) to obtain together with a level of the first drive signal (Ra) a brightness transition of the first and the second sub-pixels (SP11, SP12) together being substantially identical to the desired brightness transition of the first and second sub-pixels (SP11, SP12) together.

9. A driver as claimed in claim 4 or 6, further comprising a source gamma corrector (Hr) for receiving the obtainable minimum level (Rmi) and the obtainable maximum level (Rma) to supply a source gamma corrected minimum level (rmi) and a source gamma corrected maximum level (rma) to the clipping compensator (CC).

10. A driver as claimed in claim 4 or 6, further comprising a display gamma corrector (Kr) for receiving the first drive signal (Ra) to supply a corrected first drive signal (Ra2).

11. A driver as claimed in claim 4, wherein the pixel (Pk) further comprises a third sub-pixel (SP21), the driver (D) being arranged for further receiving a third input signal (B) indicating a third desired brightness transition of the third sub-pixel (SP21) to supply a third drive signal (Ba) to the third sub-pixel (SP21) at a frame rate, being the reciprocal of the frame period (Tf),

the frame memory (FB) is arranged for further storing the second input signal (G) and the third input signal (B) to supply a previous second input signal (Gp) and a previous third input signal (Bp), respectively,

the means (LV1; CC, Fr, Fg, Fb) for detecting further comprises:

- a second limit value determination circuit (Fg) for receiving the previous second input signal (Gp) to determine, starting from a level of the previous second input signal (Gp) a second obtainable minimum level (Gmi) being obtainable by supplying the minimum level (MI) to the second sub-pixel (SP12), and a second obtainable maximum level (Gma) being obtainable by supplying the maximum level (MA) to the second sub-pixel (SP12), and
- a third limit value determination circuit (Fb) for receiving the previous third input signal (Bp) to determine, starting from a level of the previous third input signal (Bp) a third obtainable minimum level (Bmi) being obtainable by supplying the minimum level (MI) to the third sub-pixel (SP21), and a third obtainable maximum level (Bma) being obtainable by supplying the maximum level (MA) to the third sub-pixel (SP21), and
- the clipping compensator (CC) is arranged for further receiving the third input signal (Bp) to supply the third drive signal (Ba), wherein at least one level of the second and third drive signal (Ga, Ba) is increased or decreased with respect to the level of the second and third input signal (G, B), respectively, if is detected that the first drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI).

12. A display device comprising the driver (D) as claimed in claim 1, and the display panel (1).

13. A display apparatus comprising the display device as claimed in claim 12, and signal processing circuitry (SPC).

14. A method of driving a matrix display panel comprising a pixel (Pk) having a first and a second sub-pixel (SP11, SP12) both having an inertia, the method comprising:

receiving (D) a first and second input signal (R, G) indicating a first and a second desired brightness transition (BT1, BT2) of the first and second sub-pixel (SP11, SP12), respectively, for supplying (D) a first and a second drive signal (Ra, Ga) to the first and the second sub-pixel (SP11, SP12), respectively, at a predetermined repetition rate, the step of receiving and supplying (D) comprising:

- detecting (LV1; CC, Fr, Fg, Fb) whether the first drive signal (Ra) would have to surpass a maximum level (MA) or to fall below a minimum level (MI) in order to compensate for the inertia of the first sub-pixel (SP11) so as to enable the first pixel (SP11) to substantially complete the first desired brightness transition (BT1) within a single predetermined period (Tf) being the reciprocal of the predetermined repetition rate, and
- increasing or decreasing (AC, CO; CC) a level of the second drive signal (Ga) if is detected that the first drive signal (Ra) would have to surpass the maximum level (MA) or to fall below the minimum level (MI), respectively.